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(57)

**ABSTRACT**

A system for regulating fluid flow having a processor configured to reduce image noise is provided. The system includes an image sensor to capture an image of the drip chamber and a valve to regulate the fluid flowing from the drip chamber to a patient. The processor captures the image of the drip chamber using the image sensor, performs an edge detection on the image to generate a first processed image, and performs an AND-operation on a pixel on a first side of an axis of the first processed image with a corresponding mirror pixel on a second side of the axis of the first processed image to generate a second processed image.

96

